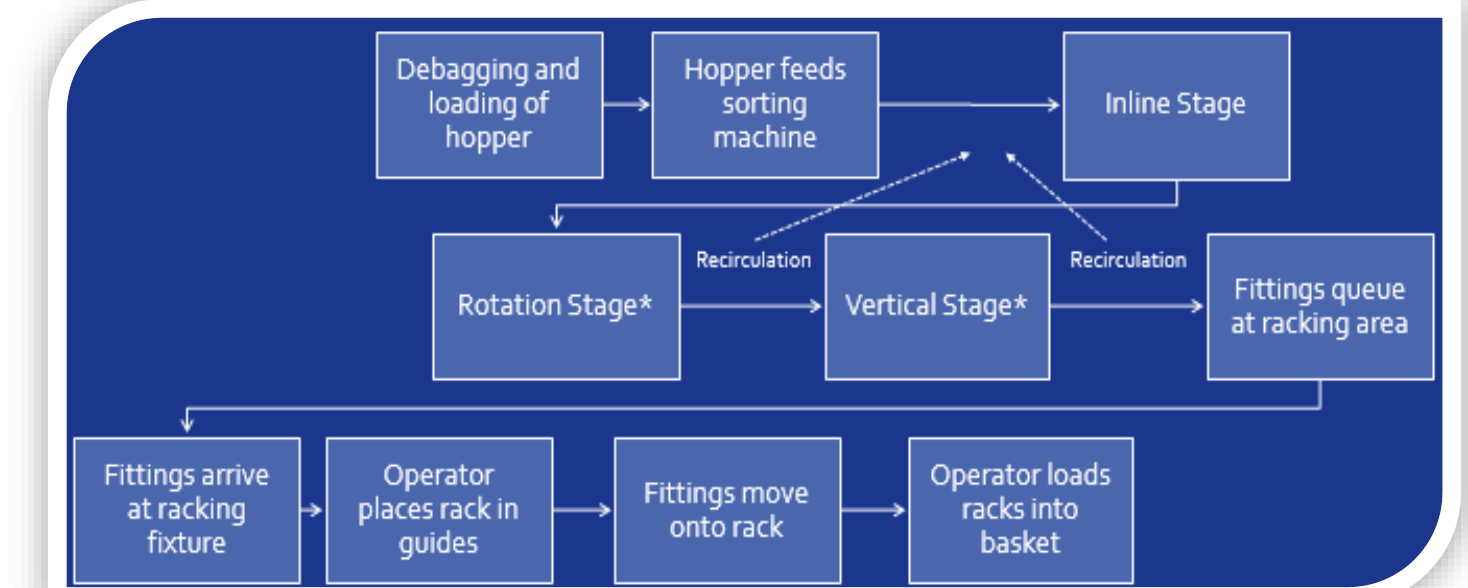
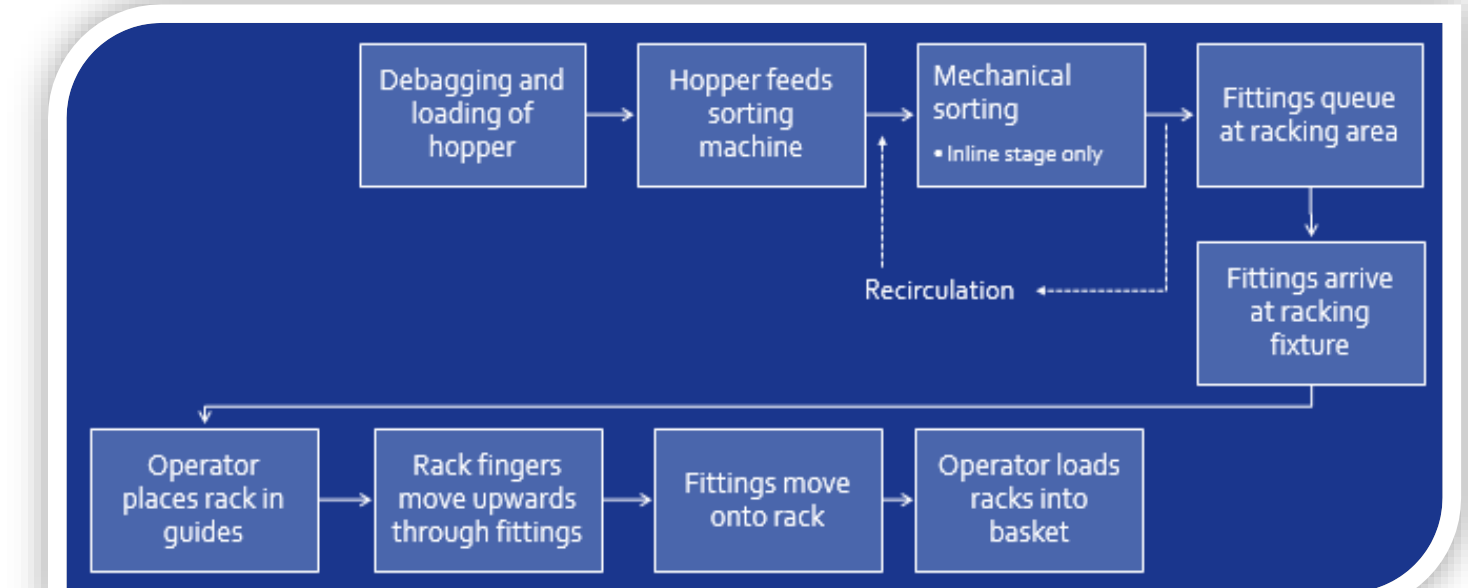


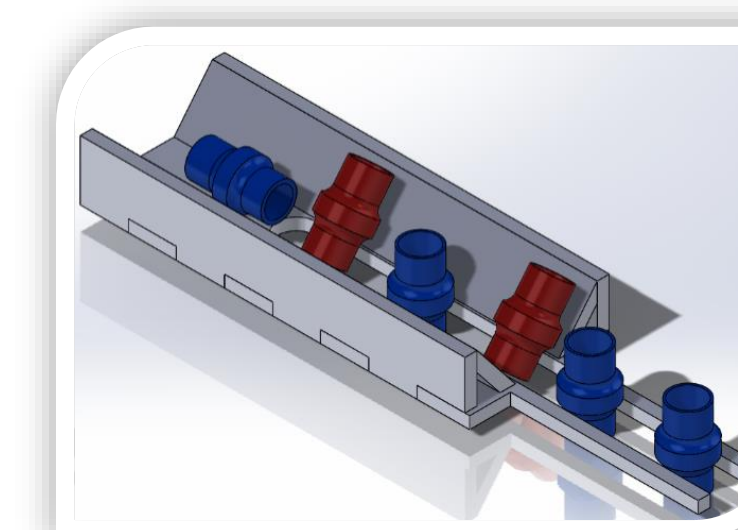
Titanium Fitting Sorting



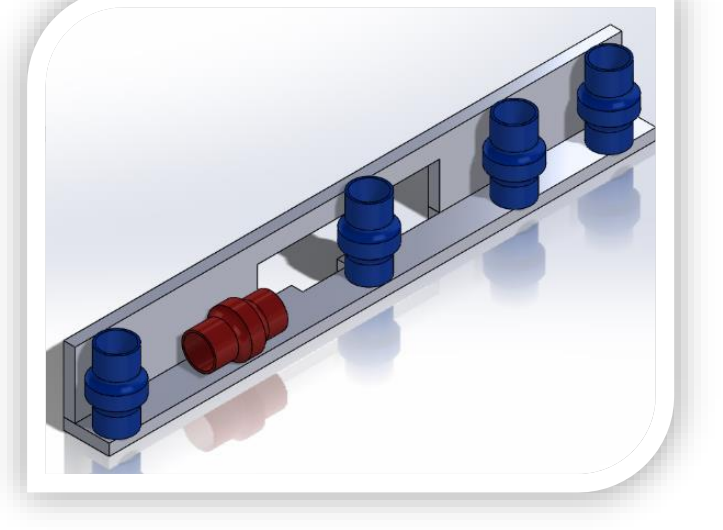
3/8" Sleeve Sorting Process



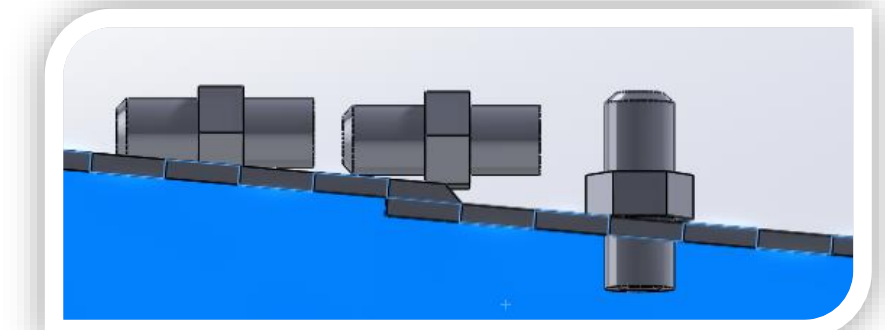
3/8" Union Sorting Process



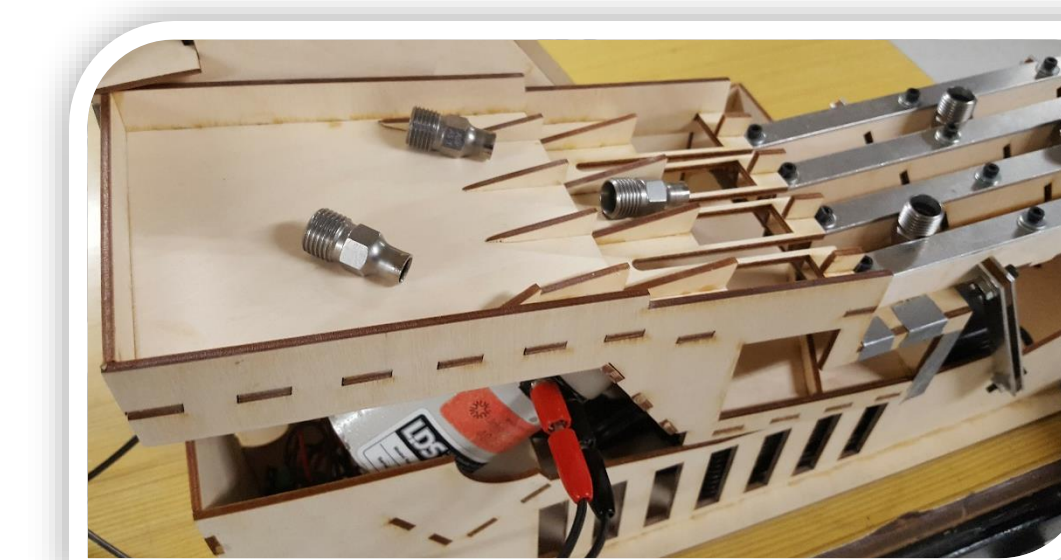
Inline Stage



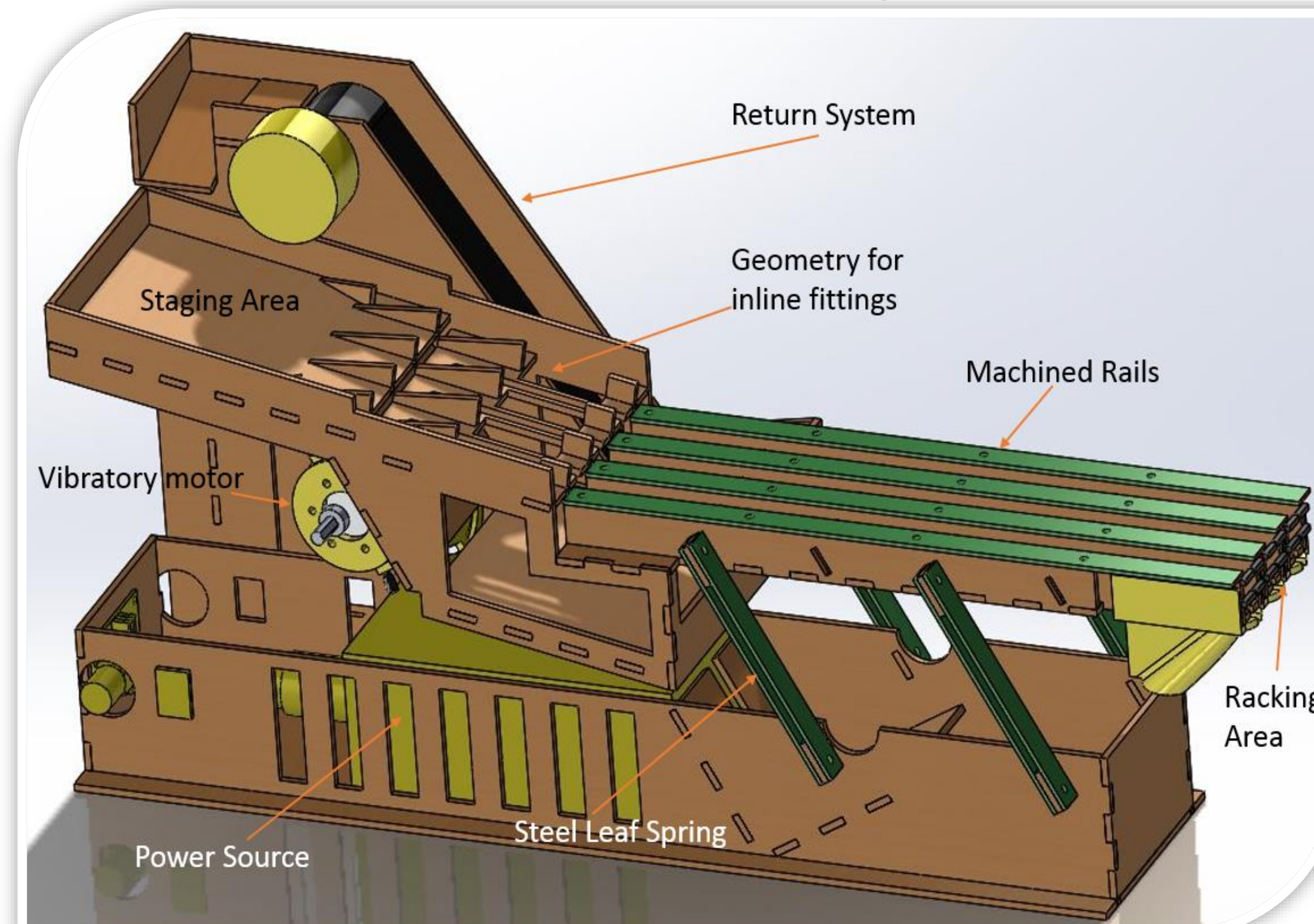
Vertical Stage



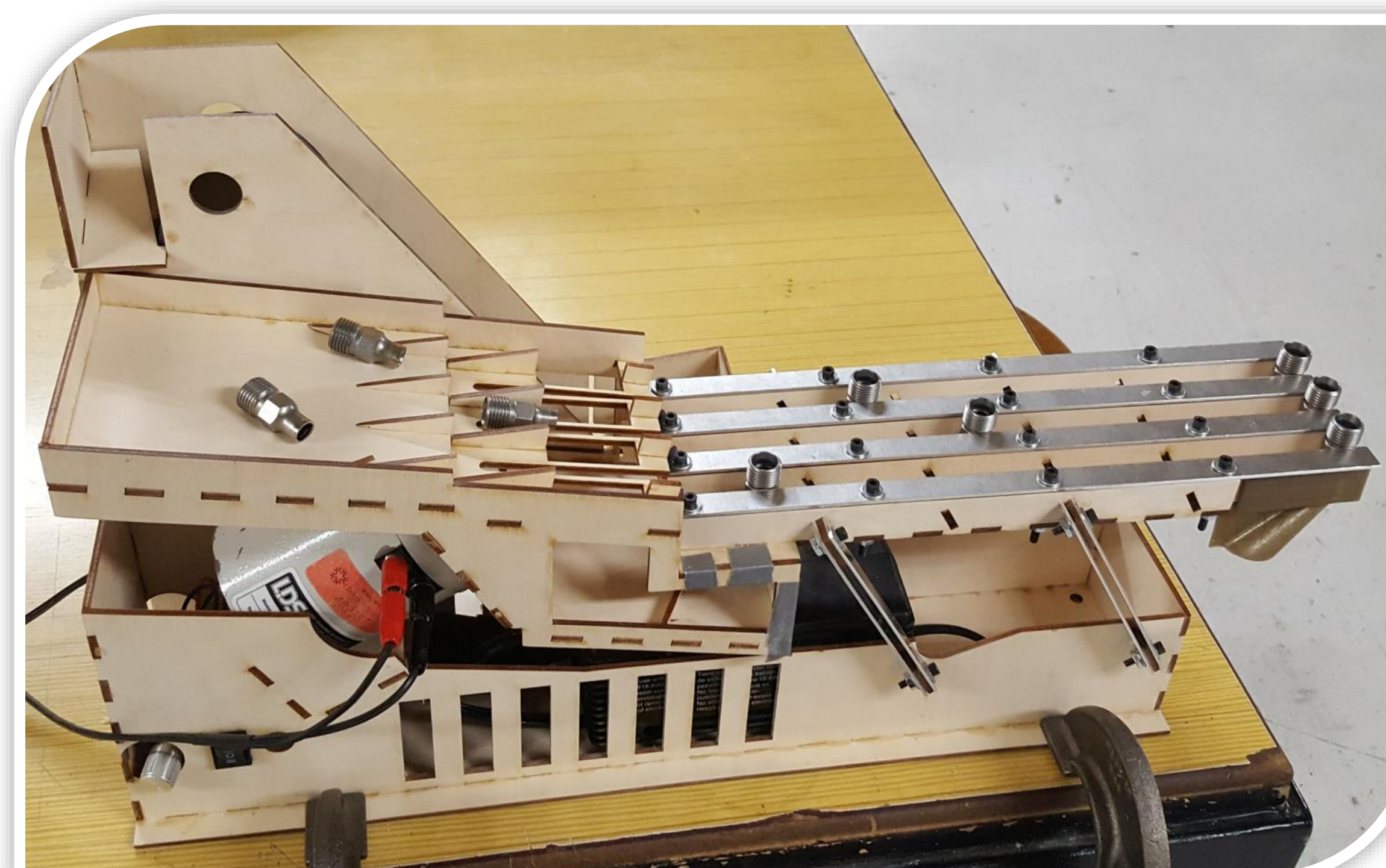
Rotation Stage



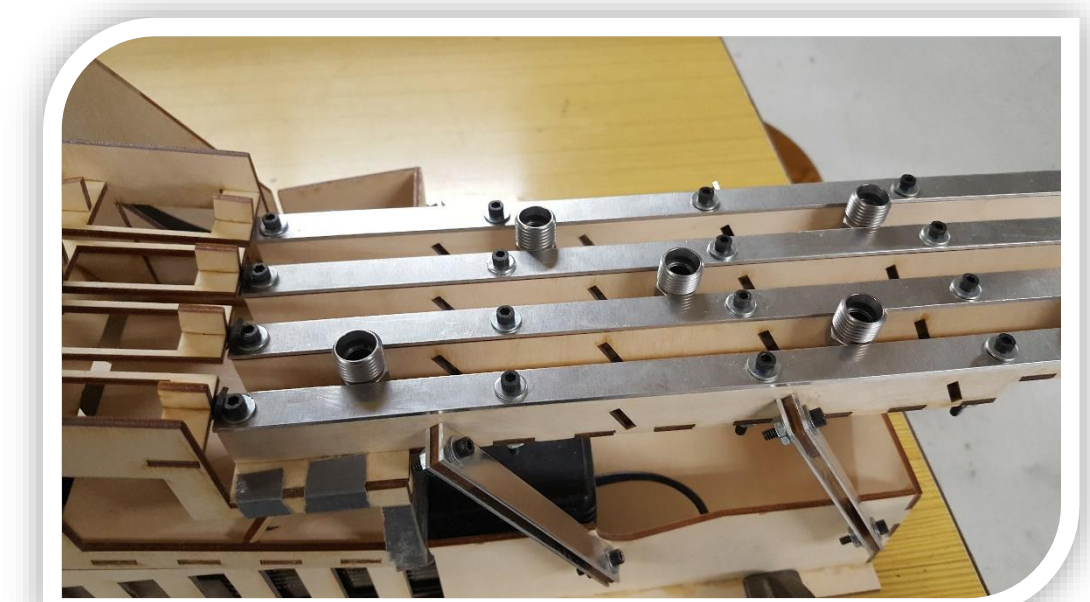
Selected geometry forces fittings to move to inline.



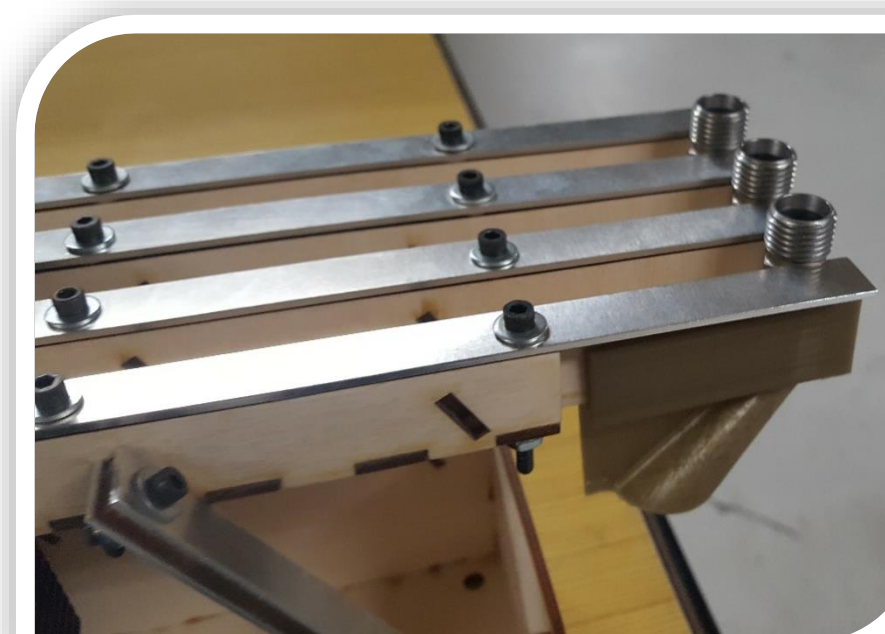
Working Prototype



Machined rails allow fittings to queue for racking while also keeping them vertical.



Racking fixture prevents fittings from falling off and guides rack fingers into fittings.



Background

Currently TDRC processes over 2700 fittings a day. These are individually placed onto cleaning racks. Manual sorting of the fittings accounts for 65% of the operator time required for cleaning fittings.

Problem Statement

Design a sorting system that dramatically reduces the amount of manual sorting time required by the operators. Demonstrate a solution for two fittings (3/8" union and 3/8" sleeve). Identify any 3rd party commercial parts available.

Sleeves/yr:	Unions/yr:
0.250": 204,589	0.250": 38,717
0.375": 288,209	0.375": 97,174
0.500": 71,185	0.500": 18,043
0.625": 43,383	0.625": 13,005
0.750": 31,386	0.750": 11,341
1.000": 17,867	1.000": 4,823



3/8" Sleeve and Union



(Left) Racking basket for cleaning; (Right) Rack staging area; (Below) Cleaning process.

